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Title of Document Transmitted:	TRANSMITTAL SHEETS AND BRIEF OF APPELLANTS
Applicant:	George R. Hood et al.
Serial No.:	09/608,355
Filed:	June 29, 2000
Group Art Unit:	3627
Title:	ADVANCED AND BREAKTHROUGH NET INTEREST REVENUE IMPLEMENTATION FOR FINANCIAL PROCESSING IN A RELATIONAL DATABASE MANAGEMENT SYSTEM
Our Ref. No.:	9006

Please charge all fees to Deposit Account No. 14-0225 of NCR Corporation, the assignee of the present application.

By: George H. Gates

Name: George H. Gates

Reg. No.: 33,500

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Barbara Santy  
SignatureMay 23, 2005

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G&amp;C 30145.401-US-01

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Due Date: May 23, 2005

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: George R. Hood et al. Examiner: Andrew J. Rudy  
Serial No.: 09/608,355 Group Art Unit: 3627  
Filed: June 29, 2000 Docket: 9006  
Title: **ADVANCED AND BREAKTHROUGH NET INTEREST REVENUE IMPLEMENTATION  
FOR FINANCIAL PROCESSING IN A RELATIONAL DATABASE MANAGEMENT  
SYSTEM**

**CERTIFICATE OF MAILING OR TRANSMISSION UNDER 37 CFR 1.8**

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on May 23, 2005.

By: George H. Gates

Name: George H. Gates

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

We are transmitting herewith the attached:

- ☒ Transmittal sheet, in duplicate, containing a Certificate of Mailing or Transmission under 37 CFR 1.8.
- ☒ Brief of Appellant(s).
- ☒ Charge the Fee for the Brief of Appellant(s) in the amount of \$500.00 to the Deposit Account.

Please charge all fees to Deposit Account No. 14-0225 of NCR Corporation (the assignee of the present application). A duplicate of this paper is enclosed.

**Customer Number 22462**  
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By: George H. Gates

Name: George H. Gates

Reg. No.: 33,500

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**RECEIVED  
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MAY 23 2005

Due Date: May 23, 2005

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:	)	
Inventor: George R. Hood et al.	)	Examiner: Andrew J. Rudy
Serial #: 09/608,355	)	Group Art Unit: 3627
Filed: June 29, 2000	)	Appeal No.: _____
Title: ADVANCED AND BREAKTHROUGH	)	
NET INTEREST REVENUE	)	
IMPLEMENTATION FOR FINANCIAL	)	
PROCESSING IN A RELATIONAL	)	
<u>DATABASE MANAGEMENT SYSTEM</u>	)	

**BRIEF OF APPELLANTS****MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In accordance with 37 CFR §41.37, Appellants' attorney hereby submits the Brief of Appellants on appeal from the final rejection in the above-identified application as set forth in the Office Action dated December 1, 2004.

Please charge the amount of \$500.00 to cover the required fee for filing this Brief as set forth under 37 CFR §41.20(b)(2) to Deposit Account No. 14-0225 of NCR Corporation, the assignee of the present application. Also, please charge any additional fees or credit any overpayments to Deposit Account No. 14-0225.

**I. REAL PARTY IN INTEREST**

The real party in interest is NCR Corporation, the assignee of the present application.

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## II. RELATED APPEALS AND INTERFERENCES

There are related appeals in the following co-pending and commonly-assigned patent applications:

Application Serial No. 09/610,646, filed on June 29, 2000, by George R. Hood et al., entitled BASIC AND INTERMEDIATE NET INTEREST REVENUE IMPLEMENTATIONS FOR FINANCIAL PROCESSING IN A RELATIONAL DATABASE MANAGEMENT SYSTEM, attorney's docket number 8980 (30145.397US01);

Application Serial No. 09/943,059, filed on August 30, 2001, by Paul H. Phibbs, Jr., entitled ALLOCATED BALANCES IN A NET INTEREST REVENUE IMPLEMENTATION FOR FINANCIAL PROCESSING IN A RELATIONAL DATABASE MANAGEMENT SYSTEM, attorney's docket number 9512 (30145.405USU1);

Application Serial No. 09/608,682, filed on June 29, 2000, by George R. Hood, entitled RISK PROVISION IMPLEMENTATION FOR FINANCIAL PROCESSING IN A RELATIONAL DATABASE MANAGEMENT SYSTEM, attorney's docket number 9015 (30145.392US01); and

Application Serial No. 09/608,681, filed on June 29, 2000, by George R. Hood et al., entitled OTHER REVENUE IMPLEMENTATION FOR FINANCIAL PROCESSING IN A RELATIONAL DATABASE MANAGEMENT SYSTEM, attorney's docket number 9015 (30145.391US01).

## III. STATUS OF CLAIMS

Claims 1-13, 30-43 and 60-71 were canceled.

Claims 14-29, 44-59 and 72-87 are pending in the application.

Claims 1-31 were rejected under 35 U.S.C. §103(a) as being unpatentable in view of "College Accounting, Seventh Edition," to Price. This rejection is in error. It is assumed that the listing of claims in the Office Action is a typographical error and that claims 14-29, 44-59 and 72-87 were rejected.

Claims 14-29, 44-59 and 72-87 are being appealed.

#### IV. STATUS OF AMENDMENTS

No amendments have been made subsequent to the final Office Action.

#### V. SUMMARY OF THE INVENTION

Applicants' independent claims 14, 22, 44, 52, 72 and 80 are generally directed to inventions that perform financial processing in a computer.

Claim 14 is directed to a method of performing financial processing in a computer. The method includes accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status. The method also includes performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \\ &- \text{Direct Expense (DE)} \\ &- \text{Indirect Expense (IE)} \\ &- \text{Risk Provision (RP)} \end{aligned}$$

The Net Interest Revenue (NIR) is calculated in an Advanced Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IR(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \\ &- \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\begin{aligned} \text{IR(a)} &= \sum \text{AB (c=asset,s,t)(a) * eff rate(c=asset,s,t)(a),} \\ \text{COF(a)} &= \sum \text{AB (c=asset,s,t)(a) * TR(c=asset,s,t) (type}_{p,a}\text{(a))}, \\ \text{IE(a)} &= \sum \text{AB (c=liability,s,t)(a) * eff rate(c=liability,s,t)(a), and} \\ \text{VOF(a)} &= \sum \text{AB (c=liability,s,t)(a) * TR(c=liability,s,t) (type}_{p,a}\text{(a))}, \end{aligned}$$

wherein:

$AB(c,s,t)(a)$  = Average Balances of an account  $a$  based on class  $(c)$ , state  $(s)$ , and tier  $(t)$  characteristics of a balance type,

$eff\ rate(c,s,t)(a)$  = Effective interest rate for the account  $a$  based on the class  $(c)$ , state  $(s)$ , and tier  $(t)$  characteristics of the balance type,

$type_{p,a}(a)$  = Product type  $p$  for the account  $a$ ,

$TR(c,s,t)(type_{p,a}(a))$  = Treatment Rate for the accounts  $a$  of a product type  $p$  based on the class  $(c)$ , state  $(s)$ , and tier  $(t)$  characteristics of the balance type,

$IR(a)$  = the Interest Revenue of the account  $a$ ,

$COF(a)$  = the Cost of Funds for the account  $a$ ,

$IE(a)$  = the Interest Expense for the account  $a$ , and

$VOF(a)$  = the Value of Funds for the account  $a$ .

Claim 22 is directed to a method of performing financial processing in a computer. The method includes accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status. The method also includes performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \\ &- \text{Direct Expense (DE)} \\ &- \text{Indirect Expense (IE)} \\ &- \text{Risk Provision (RP)} \end{aligned}$$

The Net Interest Revenue (NIR) is calculated in a Breakthrough Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IR}(a)) \\ &- \text{Cost of Funds (COF}(a)) \\ &+ \text{Value of Funds (VOF}(a)) \end{aligned}$$

– Interest Expense (IE(a))

according to:

$$IR(a) = \sum AB(c=asset, s, t)(a) * eff\ rate(c=asset, s, t)(a),$$

$$COF(a) = \sum AB(c=asset, s, t)(a) * TR(c=asset, s, t)(type_{p,a,b}(a)),$$

$$IE(a) = \sum AB(c=liability, s, t)(a) * eff\ rate(c=liability, s, t)(a), \text{ and}$$

$$VOF(a) = \sum AB(c=liability, s, t)(a) * TR(c=liability, s, t)(type_{p,a,b}(a)),$$

wherein:

$AB(c, s, t)(a)$  = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$eff\ rate(c, s, t)(a)$  = Effective interest rate for the account a based on the class (c), state (s), and tier (t) characteristics of the balance type,

$type_{p,a,b}(a)$  = Product type p for the account a based on a behavior b,

$TR(c, s, t)(type_{p,a,b}(a))$  = Treatment Rate for the accounts a of the product type p and the behavior b based on the class (c), state (s), and tier (t) characteristics of the balance type,

$IR(a)$  = the Interest Revenue of the account a,

$COF(a)$  = the Cost of Funds for the account a,

$IE(a)$  = the Interest Expense for the account a, and

$VOF(a)$  = the Value of Funds for the account a.

Claim 44 is directed to a system for financial processing. The system includes a computer and logic performed by the computer. The logic includes accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status. The logic also includes performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \end{aligned}$$

- Direct Expense (DE)
- Indirect Expense (IE)
- Risk Provision (RP)

The Net Interest Revenue (NIR) is calculated in an Advanced Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IR(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \\ &- \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\text{IR(a)} = \sum \text{AB (c=asset,s,t)(a)} * \text{eff rate(c=asset,s,t)(a)},$$

$$\text{COF(a)} = \sum \text{AB (c=asset,s,t)(a)} * \text{TR(c=asset,s,t) (type}_{p,a}\text{(a))},$$

$$\text{IE(a)} = \sum \text{AB (c=liability,s,t)(a)} * \text{eff rate(c=liability,s,t)(a)}, \text{ and}$$

$$\text{VOF(a)} = \sum \text{AB (c=liability,s,t)(a)} * \text{TR(c=liability,s,t) (type}_{p,a}\text{(a))},$$

wherein:

$\text{AB(c,s,t)(a)}$  = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$\text{eff rate(c,s,t)(a)}$  = Effective interest rate for the account a based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{type}_{p,a}\text{(a)}$  = Product type p for the account a,

$\text{TR(c,s,t)(type}_{p,a}\text{(a))}$  = Treatment Rate for the accounts a of a product type p based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{IR(a)}$  = the Interest Revenue of the account a,

$\text{COF(a)}$  = the Cost of Funds for the account a,

$\text{IE(a)}$  = the Interest Expense for the account a, and

$\text{VOF(a)}$  = the Value of Funds for the account a.

Claim 52 is directed to a system for financial processing. The system includes a computer and logic performed by the computer. The logic includes accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data



about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status. The logic also includes performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} = & \text{Net Interest Revenue (NIR)} \\ & + \text{Other Revenue (OR)} \\ & - \text{Direct Expense (DE)} \\ & - \text{Indirect Expense (IE)} \\ & - \text{Risk Provision (RP)} \end{aligned}$$

The Net Interest Revenue (NIR) is calculated in a Breakthrough Tier as:

$$\begin{aligned} \text{NIR} = & \text{Interest Revenue (IR(a))} \\ & - \text{Cost of Funds (COF(a))} \\ & + \text{Value of Funds (VOF(a))} \\ & - \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\begin{aligned} \text{IR(a)} &= \sum \text{AB (c=asset,s,t)(a) * eff rate(c=asset,s,t)(a),} \\ \text{COF(a)} &= \sum \text{AB (c=asset,s,t)(a) * TR(c=asset,s,t) (type}_{p,a,b}(a)), \\ \text{IE(a)} &= \sum \text{AB (c=liability,s,t)(a) * eff rate(c=liability,s,t)(a), and} \\ \text{VOF(a)} &= \sum \text{AB (c=liability,s,t)(a) * TR(c=liability,s,t) (type}_{p,a,b}(a)), \end{aligned}$$

wherein:

$\text{AB(c,s,t)(a)}$  = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$\text{eff rate(c,s,t)(a)}$  = Effective interest rate for the account a based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{type}_{p,a,b}(a)$  = Product type p for the account a based on a behavior b,

$\text{TR(c,s,t)(type}_{p,a,b}(a))$  = Treatment Rate for the accounts a of the product type p and the behavior b based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{IR(a)}$  = the Interest Revenue of the account a,

COF(a) = the Cost of Funds for the account a,

IE(a) = the Interest Expense for the account a, and

VOF(a) = the Value of Funds for the account a.

Claim 72 is directed to an article of manufacture embodying logic for performing financial processing in a computer. The logic includes accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status. The logic also includes performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \\ &- \text{Direct Expense (DE)} \\ &- \text{Indirect Expense (IE)} \\ &- \text{Risk Provision (RP)} \end{aligned}$$

The Net Interest Revenue (NIR) is calculated in an Advanced Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IE(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \\ &- \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\begin{aligned} \text{IR(a)} &= \sum \text{AB (c=asset,s,t)(a) * eff rate(c=asset,s,t)(a),} \\ \text{COF(a)} &= \sum \text{AB (c=asset,s,t)(a) * TR(c=asset,s,t) (type}_{p,a}\text{(a))}, \\ \text{IE(a)} &= \sum \text{AB (c=liability,s,t)(a) * eff rate(c=liability,s,t)(a), and} \\ \text{VOF(a)} &= \sum \text{AB (c=liability,s,t)(a) * TR(c=liability,s,t) (type}_{p,a}\text{(a))}, \end{aligned}$$

wherein:

$AB(c,s,t)(a)$  = Average Balances of an account  $a$  based on class ( $c$ ), state ( $s$ ), and tier ( $t$ ) characteristics of a balance type,

$eff\ rate(c,s,t)(a)$  = Effective interest rate for the account  $a$  based on the class ( $c$ ), state ( $s$ ), and tier ( $t$ ) characteristics of the balance type,

$type_{p,a}(a)$  = Product type  $p$  for the account  $a$ ,

$TR(c,s,t)(type_{p,a}(a))$  = Treatment Rate for the accounts  $a$  of a product type  $p$  based on the class ( $c$ ), state ( $s$ ), and tier ( $t$ ) characteristics of the balance type,

$IR(a)$  = the Interest Revenue of the account  $a$ ,

$COF(a)$  = the Cost of Funds for the account  $a$ ,

$IE(a)$  = the Interest Expense for the account  $a$ , and

$VOF(a)$  = the Value of Funds for the account  $a$ .

Claim 80 is directed to an article of manufacture embodying logic for performing financial processing in a computer. The logic includes accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status. The logic also includes performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \\ &- \text{Direct Expense (DE)} \\ &- \text{Indirect Expense (IE)} \\ &- \text{Risk Provision (RP)} \end{aligned}$$

The Net Interest Revenue (NIR) is calculated in a Breakthrough Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IE(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \end{aligned}$$

– Interest Expense (IE(a))

according to:

$$IR(a) = \sum AB(c=asset, s, t)(a) * eff\ rate(c=asset, s, t)(a),$$

$$COF(a) = \sum AB(c=asset, s, t)(a) * TR(c=asset, s, t)(type_{p,a,b}(a)),$$

$$IE(a) = \sum AB(c=liability, s, t)(a) * eff\ rate(c=liability, s, t)(a), \text{ and}$$

$$VOF(a) = \sum AB(c=liability, s, t)(a) * TR(c=liability, s, t)(type_{p,a,b}(a)),$$

wherein:

$AB(c, s, t)(a)$  = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$eff\ rate(c, s, t)(a)$  = Effective interest rate for the account a based on the class (c), state (s), and tier (t) characteristics of the balance type,

$type_{p,a,b}(a)$  = Product type p for the account a based on a behavior b,

$TR(c, s, t)(type_{p,a,b}(a))$  = Treatment Rate for the accounts a of the product type p and the behavior b based on the class (c), state (s), and tier (t) characteristics of the balance type,

$IR(a)$  = the Interest Revenue of the account a,

$COF(a)$  = the Cost of Funds for the account a,

$IE(a)$  = the Interest Expense for the account a, and

$VOF(a)$  = the Value of Funds for the account a.

With regard to the claims, Appellants' attorney requests that the Board refer to the specification generally. Specific portions of the specification that directly relate to the claims on appeal include:

(a) at page 4, line 17 through page 6, line 22;

(b) at page 9, line 1 through page 14, line 16, and in FIG. 2 as reference numbers 200-214;

(c) at page 15, line 8 through page 29, line 19, and in FIG. 3; and

(d) at page 31, line 1 through page 33, line 18, and in FIG. 4 as reference number 414.

## VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 14-29, 44-59 and 72-87 are obvious under 35 U.S.C. §103(a) in view of "College Accounting, Seventh Edition," to Price.

## VII. ARGUMENTS

### A. The Office Action Rejections

In paragraph (3) of the Office Action, claims 1-31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Price et al., "College Accounting, Seventh Edition," (Price). This rejection is in error. It is assumed that the error is a typographical error and that claims 14-29, 44-59 and 72-87 were rejected.

Appellants' attorney respectfully traverses these rejections.

### B. Appellants' Independent Claims

Applicants' independent claims 14, 22, 44, 52, 72 and 80 are generally directed to inventions that perform financial processing in a computer.

Claim 14 is representative of claims 44 and 72. Claim 14 is directed to a method of performing financial processing in a computer. The method includes accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status. The method also includes performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

Profit	=	Net Interest Revenue (NIR)
	+	Other Revenue (OR)
	-	Direct Expense (DE)
	-	Indirect Expense (IE)
	-	Risk Provision (RP)

The Net Interest Revenue (NIR) is calculated in an Advanced Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IR(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \\ &- \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\text{IR(a)} = \sum \text{AB (c=asset,s,t)(a)} * \text{eff rate(c=asset,s,t)(a)},$$

$$\text{COF(a)} = \sum \text{AB (c=asset,s,t)(a)} * \text{TR(c=asset,s,t) (type}_{p,a}\text{(a))},$$

$$\text{IE(a)} = \sum \text{AB (c=liability,s,t)(a)} * \text{eff rate(c=liability,s,t)(a)}, \text{ and}$$

$$\text{VOF(a)} = \sum \text{AB (c=liability,s,t)(a)} * \text{TR(c=liability,s,t) (type}_{p,a}\text{(a))},$$

wherein:

$\text{AB(c,s,t)(a)}$  = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$\text{eff rate(c,s,t)(a)}$  = Effective interest rate for the account a based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{type}_{p,a}\text{(a)}$  = Product type p for the account a,

$\text{TR(c,s,t)(type}_{p,a}\text{(a))}$  = Treatment Rate for the accounts a of a product type p based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{IR(a)}$  = the Interest Revenue of the account a,

$\text{COF(a)}$  = the Cost of Funds for the account a,

$\text{IE(a)}$  = the Interest Expense for the account a, and

$\text{VOF(a)}$  = the Value of Funds for the account a.

Claim 22 is representative of claims 52 and 80. Claim 22 is directed to a method of performing financial processing in a computer. The method includes accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status. The method also includes performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from

the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \\ &- \text{Direct Expense (DE)} \\ &- \text{Indirect Expense (IE)} \\ &- \text{Risk Provision (RP)} \end{aligned}$$

The Net Interest Revenue (NIR) is calculated in a Breakthrough Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IR(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \\ &- \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\begin{aligned} \text{IR(a)} &= \sum \text{AB (c=asset,s,t)(a) * eff rate(c=asset,s,t)(a),} \\ \text{COF(a)} &= \sum \text{AB (c=asset,s,t)(a) * TR(c=asset,s,t) (type}_{p,a,b}(a)), \\ \text{IE(a)} &= \sum \text{AB (c=liability,s,t)(a) * eff rate(c=liability,s,t)(a), and} \\ \text{VOF(a)} &= \sum \text{AB (c=liability,s,t)(a) * TR(c=liability,s,t) (type}_{p,a,b}(a)), \end{aligned}$$

wherein:

$\text{AB(c,s,t)(a)}$  = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$\text{eff rate(c,s,t)(a)}$  = Effective interest rate for the account a based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{type}_{p,a,b}(a)$  = Product type p for the account a based on a behavior b,

$\text{TR(c,s,t)(type}_{p,a,b}(a))$  = Treatment Rate for the accounts a of the product type p and the behavior b based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{IR(a)}$  = the Interest Revenue of the account a,

$\text{COF(a)}$  = the Cost of Funds for the account a,

$\text{IE(a)}$  = the Interest Expense for the account a, and

$\text{VOF(a)}$  = the Value of Funds for the account a.

C. The Price Reference

Price is a college accounting textbook that describes accounting concepts and principles. The portions cited describe analyzing business transactions including the accounting cycle, accounting for assets and liabilities including accounts receivable and uncollectible accounts, and responsibility and cost accounting including departmentalized profit and cost centers.

D. Arguments Directed To The First Grounds for Rejection: Whether Claims 14-29, 44-59 and 72-87 Are Obvious Under 35 U.S.C. §103(a) In View of Price.

Appellants' attorney respectfully submits that Appellants' claimed invention is patentable over the Price reference. Specifically, Appellants' attorney asserts that the reference does not teach or suggest the specific combination of elements recited in Appellants' claims.

However, the Office Action asserts the following:

Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Price et al. "College Accounting, Seventh Edition" (hereafter "Price")

Price discloses, e.g. pgs 28-41, 529, 531, 966-982 (Fig. 27-5), a method measuring profit based on the factors of net interest revenue, other revenues (Fig. 27-5, line 4, "Operating Revenues"), direct expenses (Fig. 27-5, line 22, "Direct Expenses"), indirect expenses (Fig. 27-5, line 30, "Indirect Expenses"), and risk (Fig. 27-5, line 6, "Less Sales Returns and Allowances"), all set up to take advantage of flexible business rules.

Official Notice is taken that performing financial processing using computer software is common knowledge in the art.

To have provided a method of performing financial processing for an account using software for a computer measuring profit based on the factors of net interest revenue, other revenues, direct expenses, indirect expenses and risk, all set up to take advantage of flexible business rules the business rules to calculate known variations of one of the factors, e.g. net interest revenue, would have been obvious to one of ordinary skill in the art. Doing such would incorporate common knowledge data along with common knowledge software.

Appellants' August 13, 2004 and January 29, 2004 REMARKS have been reviewed, but are not convincing. In short, Appellants' profitability calculations are common knowledge variance for defining total income less total expenses. The account, event and organization attributes, e.g. flexible business rules, claimed have been common knowledge criteria used within the business community for a period of time far exceeding Appellants' filing date. To have



incorporated such common knowledge in the profitability calculations for Price, as modified by Official Notice, would have been obvious to one of ordinary skill in the art.

Appellants' attorney disagrees with this analysis.

1. Claims 14, 44 and 72

With regard to independent claims 14, 44 and 72, Price does not teach or suggest the claimed elements of accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status; and performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \\ &- \text{Direct Expense (DE)} \\ &- \text{Indirect Expense (IE)} \\ &- \text{Risk Provision (RP)} \end{aligned}$$

More specifically, Price does not teach or suggest that the Net Interest Revenue (NIR) is calculated in an Advanced Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IR(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \\ &- \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\begin{aligned} \text{IR(a)} &= \sum \text{AB (c=asset,s,t)(a) * eff rate(c=asset,s,t)(a),} \\ \text{COF(a)} &= \sum \text{AB (c=asset,s,t)(a) * TR(c=asset,s,t) (type}_{p,a}\text{(a))}, \\ \text{IE(a)} &= \sum \text{AB (c=liability,s,t)(a) * eff rate(c=liability,s,t)(a), and} \\ \text{VOF(a)} &= \sum \text{AB (c=liability,s,t)(a) * TR(c=liability,s,t) (type}_{p,a}\text{(a))}, \end{aligned}$$

wherein:

$AB(c,s,t)(a)$  = Average Balances of an account  $a$  based on class  $(c)$ , state  $(s)$ , and tier  $(t)$  characteristics of a balance type,

$eff\ rate(c,s,t)(a)$  = Effective interest rate for the account  $a$  based on the class  $(c)$ , state  $(s)$ , and tier  $(t)$  characteristics of the balance type,

$type_{p,a}(a)$  = Product type  $p$  for the account  $a$ ,

$TR(c,s,t)(type_{p,a}(a))$  = Treatment Rate for the accounts  $a$  of a product type  $p$  based on the class  $(c)$ , state  $(s)$ , and tier  $(t)$  characteristics of the balance type,

$IR(a)$  = the Interest Revenue of the account  $a$ ,

$COF(a)$  = the Cost of Funds for the account  $a$ ,

$IE(a)$  = the Interest Expense for the account  $a$ , and

$VOF(a)$  = the Value of Funds for the account  $a$ .

Instead, the "Net Interest Revenue" is only referred to generally by the Office Action, no specification citation to Price is made with regard to this element, and nowhere does the reference teach or suggest the limitations of these claims. Consequently, the rejections fail to persuade.

Appellants' claimed invention provides operational advantages over the system disclosed in Price. Price reflects an outdated approach to income statements. Appellants' invention, on the other hand, describes a different, more sophisticated model for implementing profitability calculations in a computer system, as well as a different, more sophisticated set of relationships between the elements of the model. Price fails to teach or suggest the specific model, all of the elements of the model, or the relationships between the various elements.

Thus, Appellants' attorney submits that independent claims 14, 44 and 72 are allowable over Price. Further, dependent claims 15-21, 45-51 and 73-79 are submitted to be allowable over Price in the same manner, because they are dependent on independent claims 14, 44 and 72, respectively, and because they contain all the limitations of the independent claims. In addition, dependent claims 15-21, 45-51 and 73-79 recite additional novel elements not shown by Price.

2. Claims 15, 45 and 73

Claims 15, 45 and 73 recite that the balance type comprises a combined effect of the class, state, and tier characteristics. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

3. Claims 16, 46 and 74

Claims 16, 46 and 74 recite that the class characteristic is defined as either an asset or liability. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

4. Claims 17, 47 and 75

Claims 17, 47 and 75 recite that the state characteristic is defined as either cleared, ledger, or float. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

5. Claims 18, 48 and 76

Claims 18, 48 and 76 recite that the tier characteristic is defined as tiers used by the organization in supplying balances. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

6. Claims 19, 49 and 77

Claims 19, 49 and 77 recite identifying the Treatment Rate using features, wherein the features are selected from a group comprising open date, reset date, term, payment characteristics, and rate type. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

7. Claims 20, 50 and 78

Claims 20, 50 and 78 recite allocating asset balances among the accounts using one or more allocation rules. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

8. Claims 21, 51 and 79

Claims 21, 51 and 79 recite that calculating the Net Income Revenue in the Advanced Tier generates one or more outputs selected from a group comprising the Interest Revenue, Interest Expense, Cost of Funds, Value of Funds, Lending Spread, and Deposit Spread. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

9. Claims 22, 52 and 80

With regard to independent claims 22, 52 and 80, Price does not teach or suggest the claimed elements of accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3)

the organization attributes comprise data about the organization's financial status; and performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \\ &- \text{Direct Expense (DE)} \\ &- \text{Indirect Expense (IE)} \\ &- \text{Risk Provision (RP)} \end{aligned}$$

More specifically, Price does not teach or suggest that the Net Interest Revenue (NIR) is calculated in a Breakthrough Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IR(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \\ &- \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\begin{aligned} \text{IR(a)} &= \sum \text{AB (c=asset,s,t)(a) * eff rate(c=asset,s,t)(a),} \\ \text{COF(a)} &= \sum \text{AB (c=asset,s,t)(a) * TR(c=asset,s,t) (type}_{p,a,b}\text{(a))}, \\ \text{IE(a)} &= \sum \text{AB (c=liability,s,t)(a) * eff rate(c=liability,s,t)(a), and} \\ \text{VOF(a)} &= \sum \text{AB (c=liability,s,t)(a) * TR(c=liability,s,t) (type}_{p,a,b}\text{(a))}, \end{aligned}$$

wherein:

$\text{AB(c,s,t)(a)}$  = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$\text{eff rate(c,s,t)(a)}$  = Effective interest rate for the account a based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{type}_{p,a,b}\text{(a)}$  = Product type p for the account a based on a behavior b,

$\text{TR(c,s,t)(type}_{p,a,b}\text{(a))}$  = Treatment Rate for the accounts a of the product type p and the behavior b based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{IR(a)}$  = the Interest Revenue of the account a,

COF(a) = the Cost of Funds for the account a,

IE(a) = the Interest Expense for the account a, and

VOF(a) = the Value of Funds for the account a.

Instead, the "Net Interest Revenue" is only referred to generally by the Office Action, no specification citation to Price is made with regard to this element, and nowhere does the reference teach or suggest the limitations of these claims. Consequently, the rejections fail to persuade.

Appellants' claimed invention provides operational advantages over the system disclosed in Price. Price reflects an outdated approach to income statements. Appellants' invention, on the other hand, describes a different, more sophisticated model for implementing profitability calculations in a computer system, as well as a different, more sophisticated set of relationships between the elements of the model. Price fails to teach or suggest the specific model, all of the elements of the model, or the relationships between the various elements.

Thus, Appellants' attorney submits that independent claims 22, 52 and 80 are allowable over Price. Further, dependent claims 23-29, 53-59 and 81-87 are submitted to be allowable over Price in the same manner, because they are dependent on independent claims 22, 52 and 80, respectively, and because they contain all the limitations of the independent claims. In addition, dependent claims 23-29, 53-59 and 81-87 recite additional novel elements not shown by Price.

#### 10. Claims 23, 53 and 81

Claims 23, 53 and 81 recite that the balance type comprises a combined effect of a class, state, and tier characteristics. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

#### 11. Claims 24, 54 and 82

Claims 24, 54 and 82 recite that the class characteristic is defined as either an asset or liability. The Office Action rejects these claims only generally, i.e., on the same basis as the

independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

12. Claims 25, 55 and 83

Claims 25, 55 and 83 recite that the state characteristic is defined as either cleared, ledger, or float. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

13. Claims 26, 56 and 84

Claims 26, 56 and 84 recite that the tier characteristic is defined as tiers used by the organization in supplying balances. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

14. Claims 27, 57 and 85

Claims 27, 57 and 85 recite identifying the Treatment Rate using features, wherein the features are selected from a group comprising open date, reset date, term, payment characteristics, and rate type. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

15. Claims 28, 58 and 86

Claims 28, 58 and 86 recite allocating asset balances among the accounts using one or more allocation rules. The Office Action rejects these claims only generally, i.e., on the same

basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

16. Claims 29, 59 and 87

Claims 29, 59 and 87 recite calculating the Net Income Revenue in the Breakthrough Tier generates one or more outputs selected from a group comprising the Interest Revenue, Interest Expense, Cost of Funds, Value of Funds, Lending Spread, and Deposit Spread. The Office Action rejects these claims only generally, i.e., on the same basis as the independent claims, without citing any specific location within the reference as teaching these limitations. Appellants' attorney disagrees with this analysis, and submits that nowhere does the reference teach or suggest the limitations of these claims.

VIII. CONCLUSION

In light of the above arguments, Appellants' attorney respectfully submits that the cited references do not anticipate nor render obvious the claimed invention. More specifically, Appellants' claims recite novel physical features which patentably distinguish over any and all references under 35 U.S.C. §§ 102 and 103.



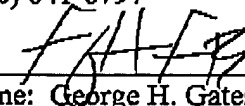
As a result, a decision by the Board of Patent Appeals and Interferences reversing the Examiner and directing allowance of the pending claims in the subject application is respectfully solicited.

Respectfully submitted,

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## APPENDIX

### 1-13. (CANCELED)

14. A method of performing financial processing in a computer, comprising:

(a) accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status;

(b) performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \\ &- \text{Direct Expense (DE)} \\ &- \text{Indirect Expense (IE)} \\ &- \text{Risk Provision (RP)} \end{aligned}$$

(c) wherein the Net Interest Revenue (NIR) is calculated in an Advanced Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IR(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \\ &- \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\begin{aligned} \text{IR(a)} &= \sum \text{AB (c=asset,s,t)(a) * eff rate(c=asset,s,t)(a),} \\ \text{COF(a)} &= \sum \text{AB (c=asset,s,t)(a) * TR(c=asset,s,t) (type}_{p,a}\text{(a)),} \\ \text{IE(a)} &= \sum \text{AB (c=liability,s,t)(a) * eff rate(c=liability,s,t)(a), and} \\ \text{VOF(a)} &= \sum \text{AB (c=liability,s,t)(a) * TR(c=liability,s,t) (type}_{p,a}\text{(a)),} \end{aligned}$$

wherein:

AB(c,s,t)(a) = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$\text{eff rate}(c,s,t)(a)$  = Effective interest rate for the account  $a$  based on the class ( $c$ ), state ( $s$ ), and tier ( $t$ ) characteristics of the balance type,

$\text{type}_{p,a}(a)$  = Product type  $p$  for the account  $a$ ,

$\text{TR}(c,s,t)(\text{type}_{p,a}(a))$  = Treatment Rate for the accounts  $a$  of a product type  $p$  based on the class ( $c$ ), state ( $s$ ), and tier ( $t$ ) characteristics of the balance type,

$\text{IR}(a)$  = the Interest Revenue of the account  $a$ ,

$\text{COF}(a)$  = the Cost of Funds for the account  $a$ ,

$\text{IE}(a)$  = the Interest Expense for the account  $a$ , and

$\text{VOF}(a)$  = the Value of Funds for the account  $a$ .

15. The method of claim 14, wherein the balance type comprises a combined effect of the class, state, and tier characteristics.

16. The method of claim 15, wherein the class characteristic is defined as either an asset or liability.

17. The method of claim 15, wherein the state characteristic is defined as either cleared, ledger, or float.

18. The method of claim 15, wherein the tier characteristic is defined as tiers used by the organization in supplying balances.

19. The method of claim 14, further comprising identifying the Treatment Rate using features, wherein the features are selected from a group comprising open date, reset date, term, payment characteristics, and rate type.

20. The method of claim 14, further comprising allocating asset balances among the accounts using one or more allocation rules.

21. The method of claim 14, wherein the step of calculating the Net Income Revenue in the Advanced Tier generates one or more outputs selected from a group comprising the

Interest Revenue, Interest Expense, Cost of Funds, Value of Funds, Lending Spread, and Deposit Spread.

22. A method of performing financial processing in a computer, comprising:

(a) accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status;

(b) performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} = & \text{Net Interest Revenue (NIR)} \\ & + \text{Other Revenue (OR)} \\ & - \text{Direct Expense (DE)} \\ & - \text{Indirect Expense (IE)} \\ & - \text{Risk Provision (RP)} \end{aligned}$$

(c) wherein the Net Interest Revenue (NIR) is calculated in a Breakthrough Tier as:

$$\begin{aligned} \text{NIR} = & \text{Interest Revenue (IR(a))} \\ & - \text{Cost of Funds (COF(a))} \\ & + \text{Value of Funds (VOF(a))} \\ & - \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\begin{aligned} \text{IR(a)} &= \sum \text{AB (c=asset,s,t)(a) * eff rate(c=asset,s,t)(a),} \\ \text{COF(a)} &= \sum \text{AB (c=asset,s,t)(a) * TR(c=asset,s,t) (type}_{p,a,b}(a)), \\ \text{IE(a)} &= \sum \text{AB (c=liability,s,t)(a) * eff rate(c=liability,s,t)(a), and} \\ \text{VOF(a)} &= \sum \text{AB (c=liability,s,t)(a) * TR(c=liability,s,t) (type}_{p,a,b}(a)), \end{aligned}$$

wherein:

$\text{AB(c,s,t)(a)}$  = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$\text{eff rate(c,s,t)(a)}$  = Effective interest rate for the account a based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{type}_{p,a,b}(a)$  = Product type  $p$  for the account  $a$  based on a behavior  $b$ ,  
 $\text{TR}(c,s,t)(\text{type}_{p,a,b}(a))$  = Treatment Rate for the accounts  $a$  of the product type  $p$  and the behavior  $b$  based on the class ( $c$ ), state ( $s$ ), and tier ( $t$ ) characteristics of the balance type,  
 $\text{IR}(a)$  = the Interest Revenue of the account  $a$ ,  
 $\text{COF}(a)$  = the Cost of Funds for the account  $a$ ,  
 $\text{IE}(a)$  = the Interest Expense for the account  $a$ , and  
 $\text{VOF}(a)$  = the Value of Funds for the account  $a$ .

23. The method of claim 22, wherein the balance type comprises a combined effect of a class, state, and tier characteristics.

24. The method of claim 23, wherein the class characteristic is defined as either an asset or liability.

25. The method of claim 23, wherein the state characteristic is defined as either cleared, ledger, or float.

26. The method of claim 23, wherein the tier characteristic is defined as tiers used by the organization in supplying balances.

27. The method of claim 22, further comprising identifying the Treatment Rate using features, wherein the features are selected from a group comprising open date, reset date, term, payment characteristics, and rate type.

28. The method of claim 22, further comprising allocating asset balances among the accounts using one or more allocation rules.

29. The method of claim 22, wherein the step of calculating the Net Income Revenue in the Breakthrough Tier generates one or more outputs selected from a group comprising the Interest Revenue, Interest Expense, Cost of Funds, Value of Funds, Lending Spread, and Deposit Spread.

## 30-43. (CANCELED)

44. A system for financial processing, comprising:  
 a computer;  
 logic, performed by the computer, for:

(a) accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status;

(b) performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \\ &- \text{Direct Expense (DE)} \\ &- \text{Indirect Expense (IE)} \\ &- \text{Risk Provision (RP)} \end{aligned}$$

(c) wherein the Net Interest Revenue (NIR) is calculated in an Advanced Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IR(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \\ &- \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\begin{aligned} \text{IR(a)} &= \sum \text{AB (c=asset,s,t)(a) * eff rate(c=asset,s,t)(a),} \\ \text{COF(a)} &= \sum \text{AB (c=asset,s,t)(a) * TR(c=asset,s,t) (type}_{p,a}\text{(a))}, \\ \text{IE(a)} &= \sum \text{AB (c=liability,s,t)(a) * eff rate(c=liability,s,t)(a), and} \\ \text{VOF(a)} &= \sum \text{AB (c=liability,s,t)(a) * TR(c=liability,s,t) (type}_{p,a}\text{(a))}, \end{aligned}$$

wherein:

$AB(c,s,t)(a)$  = Average Balances of an account  $a$  based on class ( $c$ ), state ( $s$ ), and tier ( $t$ ) characteristics of a balance type,

$eff\ rate(c,s,t)(a)$  = Effective interest rate for the account  $a$  based on the class ( $c$ ), state ( $s$ ), and tier ( $t$ ) characteristics of the balance type,

$type_{p,a}(a)$  = Product type  $p$  for the account  $a$ ,

$TR(c,s,t)(type_{p,a}(a))$  = Treatment Rate for the accounts  $a$  of a product type  $p$  based on the class ( $c$ ), state ( $s$ ), and tier ( $t$ ) characteristics of the balance type,

$IR(a)$  = the Interest Revenue of the account  $a$ ,

$COF(a)$  = the Cost of Funds for the account  $a$ ,

$IE(a)$  = the Interest Expense for the account  $a$ , and

$VOF(a)$  = the Value of Funds for the account  $a$ .

45. The system of claim 44, wherein the balance type comprises a combined effect of the class, state, and tier characteristics.

46. The system of claim 45, wherein the class characteristic is defined as either an asset or liability.

47. The system of claim 45, wherein the state characteristic is defined as either cleared, ledger, or float.

48. The system of claim 45, wherein the tier characteristic is defined as tiers used by the organization in supplying balances.

49. The system of claim 44, further comprising logic for identifying the Treatment Rate using features, wherein the features are selected from a group comprising open date, reset date, term, payment characteristics, and rate type.

50. The system of claim 44, further comprising logic for allocating asset balances among the accounts using one or more allocation rules.

51. The system of claim 44, wherein the logic for calculating the Net Income Revenue in the Advanced Tier generates one or more outputs selected from a group comprising the Interest Revenue, Interest Expense, Cost of Funds, Value of Funds, Lending Spread, and Deposit Spread.

52. A system for financial processing, comprising:  
a computer;  
logic, performed by the computer, for:

(a) accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status;

(b) performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \\ &- \text{Direct Expense (DE)} \\ &- \text{Indirect Expense (IE)} \\ &- \text{Risk Provision (RP)} \end{aligned}$$

(c) wherein the Net Interest Revenue (NIR) is calculated in a Breakthrough Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IR(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \\ &- \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\begin{aligned} \text{IR(a)} &= \sum \text{AB (c=asset,s,t)(a) * eff rate(c=asset,s,t)(a),} \\ \text{COF(a)} &= \sum \text{AB (c=asset,s,t)(a) * TR(c=asset,s,t) (type}_{p,a,b}(a)), \\ \text{IE(a)} &= \sum \text{AB (c=liability,s,t)(a) * eff rate(c=liability,s,t)(a), and} \end{aligned}$$



$$VOF(a) = \sum AB(c=liability,s,t)(a) * TR(c=liability,s,t)(type_{p,a,b}(a)),$$

wherein:

$AB(c,s,t)(a)$  = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$eff\ rate(c,s,t)(a)$  = Effective interest rate for the account a based on the class (c), state (s), and tier (t) characteristics of the balance type,

$type_{p,a,b}(a)$  = Product type p for the account a based on a behavior b,

$TR(c,s,t)(type_{p,a,b}(a))$  = Treatment Rate for the accounts a of the product type p and the behavior b based on the class (c), state (s), and tier (t) characteristics of the balance type,

$IR(a)$  = the Interest Revenue of the account a,

$COF(a)$  = the Cost of Funds for the account a,

$IE(a)$  = the Interest Expense for the account a, and

$VOF(a)$  = the Value of Funds for the account a.

53. The system of claim 52, wherein the balance type comprises a combined effect of a class, state, and tier characteristics.

54. The system of claim 53, wherein the class characteristic is defined as either an asset or liability.

55. The system of claim 53, wherein the state characteristic is defined as either cleared, ledger, or float.

56. The system of claim 53, wherein the tier characteristic is defined as tiers used by the organization in supplying balances.

57. The system of claim 52, further comprising logic for identifying the Treatment Rate using features, wherein the features are selected from a group comprising open date, reset date, term, payment characteristics, and rate type.

58. The system of claim 52, further comprising logic for allocating asset balances among the accounts using one or more allocation rules.

59. The system of claim 52, wherein the logic for calculating the Net Income Revenue in the Breakthrough Tier generates one or more outputs selected from a group comprising the Interest Revenue, Interest Expense, Cost of Funds, Value of Funds, Lending Spread, and Deposit Spread.

60-71. (CANCELED)

72. An article of manufacture embodying logic for performing financial processing in a computer, comprising:

(a) accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status;

(b) performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

Profit = Net Interest Revenue (NIR)  
 + Other Revenue (OR)  
 - Direct Expense (DE)  
 - Indirect Expense (IE)  
 - Risk Provision (RP)

(c) wherein the Net Interest Revenue (NIR) is calculated in an Advanced Tier as:

NIR = Interest Revenue (IE(a))  
 - Cost of Funds (COF(a))  
 + Value of Funds (VOF(a))  
 - Interest Expense (IE(a))

according to:

$$IR(a) = \sum AB(c=asset,s,t)(a) * eff\ rate(c=asset,s,t)(a),$$

$$\text{COF}(a) = \Sigma \text{AB} (c=\text{asset}, s, t)(a) * \text{TR}(c=\text{asset}, s, t) (\text{type}_{p,a}(a)),$$

$$\text{IE}(a) = \Sigma \text{AB} (c=\text{liability}, s, t)(a) * \text{eff rate}(c=\text{liability}, s, t)(a), \text{ and}$$

$$\text{VOF}(a) = \Sigma \text{AB} (c=\text{liability}, s, t)(a) * \text{TR}(c=\text{liability}, s, t) (\text{type}_{p,a}(a)),$$

wherein:

$\text{AB}(c, s, t)(a)$  = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$\text{eff rate}(c, s, t)(a)$  = Effective interest rate for the account a based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{type}_{p,a}(a)$  = Product type p for the account a,

$\text{TR}(c, s, t)(\text{type}_{p,a}(a))$  = Treatment Rate for the accounts a of a product type p based on the class (c), state (s), and tier (t) characteristics of the balance type,

$\text{IR}(a)$  = the Interest Revenue of the account a,

$\text{COF}(a)$  = the Cost of Funds for the account a,

$\text{IE}(a)$  = the Interest Expense for the account a, and

$\text{VOF}(a)$  = the Value of Funds for the account a.

73. The article of claim 72, wherein the balance type comprises a combined effect of the class, state, and tier characteristics.

74. The article of claim 73, wherein the class characteristic is defined as either an asset or liability.

75. The article of claim 73, wherein the state characteristic is defined as either cleared, ledger, or float.

76. The article of claim 73, wherein the tier characteristic is defined as tiers used by the organization in supplying balances.

77. The article of claim 72, further comprising identifying the Treatment Rate using features, wherein the features are selected from a group comprising open date, reset date, term, payment characteristics, and rate type.

78. The article of claim 72, further comprising allocating asset balances among the accounts using one or more allocation rules.

79. The article of claim 72, wherein the step of calculating the Net Income Revenue in the Advanced Tier generates one or more outputs selected from a group comprising the Interest Revenue, Interest Expense, Cost of Funds, Value of Funds, Lending Spread, and Deposit Spread.

80. An article of manufacture embodying logic for performing financial processing in a computer, comprising:

(a) accessing account, event and organization attributes from a database accessible by the computer, wherein: (1) the account attributes comprise data about accounts being measured, (2) the event attributes comprise data about account-related transactions, and (3) the organization attributes comprise data about the organization's financial status;

(b) performing one or more profitability calculations in the computer using the account, event and organization attributes accessed from the database, as well as one or more profit factors and one or more rules, wherein the profitability calculations include:

$$\begin{aligned} \text{Profit} &= \text{Net Interest Revenue (NIR)} \\ &+ \text{Other Revenue (OR)} \\ &- \text{Direct Expense (DE)} \\ &- \text{Indirect Expense (IE)} \\ &- \text{Risk Provision (RP)} \end{aligned}$$

(c) wherein the Net Interest Revenue (NIR) is calculated in a Breakthrough Tier as:

$$\begin{aligned} \text{NIR} &= \text{Interest Revenue (IE(a))} \\ &- \text{Cost of Funds (COF(a))} \\ &+ \text{Value of Funds (VOF(a))} \\ &- \text{Interest Expense (IE(a))} \end{aligned}$$

according to:

$$\begin{aligned} \text{IR(a)} &= \sum \text{AB (c=asset,s,t)(a)} * \text{eff rate(c=asset,s,t)(a)}, \\ \text{COF(a)} &= \sum \text{AB (c=asset,s,t)(a)} * \text{TR(c=asset,s,t) (type}_{p,a,b}(a)). \end{aligned}$$

$IE(a) = \sum AB(c=liability, s, t)(a) * eff\ rate(c=liability, s, t)(a)$ , and

$VOF(a) = \sum AB(c=liability, s, t)(a) * TR(c=liability, s, t)(type_{p,a,b}(a))$ ,

wherein:

$AB(c, s, t)(a)$  = Average Balances of an account a based on class (c), state (s), and tier (t) characteristics of a balance type,

$eff\ rate(c, s, t)(a)$  = Effective interest rate for the account a based on the class (c), state (s), and tier (t) characteristics of the balance type,

$type_{p,a,b}(a)$  = Product type p for the account a based on a behavior b,

$TR(c, s, t)(type_{p,a,b}(a))$  = Treatment Rate for the accounts a of the product type p and the behavior b based on the class (c), state (s), and tier (t) characteristics of the balance type,

$IR(a)$  = the Interest Revenue of the account a,

$COF(a)$  = the Cost of Funds for the account a,

$IE(a)$  = the Interest Expense for the account a, and

$VOF(a)$  = the Value of Funds for the account a.

81. The article of claim 80, wherein the balance type comprises a combined effect of a class, state, and tier characteristics.

82. The article of claim 81, wherein the class characteristic is defined as either an asset or liability.

83. The article of claim 81, wherein the state characteristic is defined as either cleared, ledger, or float.

84. The article of claim 81, wherein the tier characteristic is defined as tiers used by the organization in supplying balances.

85. The article of claim 80, further comprising identifying the Treatment Rate using features, wherein the features are selected from a group comprising open date, reset date, term, payment characteristics, and rate type.

86. The article of claim 80, further comprising allocating asset balances among the accounts using one or more allocation rules.

87. The article of claim 80, wherein the step of calculating the Net Income Revenue in the Breakthrough Tier generates one or more outputs selected from a group comprising the Interest Revenue, Interest Expense, Cost of Funds, Value of Funds, Lending Spread, and Deposit Spread.